



Modular Thermal Hub for Building Cooling, Heating and Water Heating

DE-AR0000135

Sustainable Thermal Systems Laboratory
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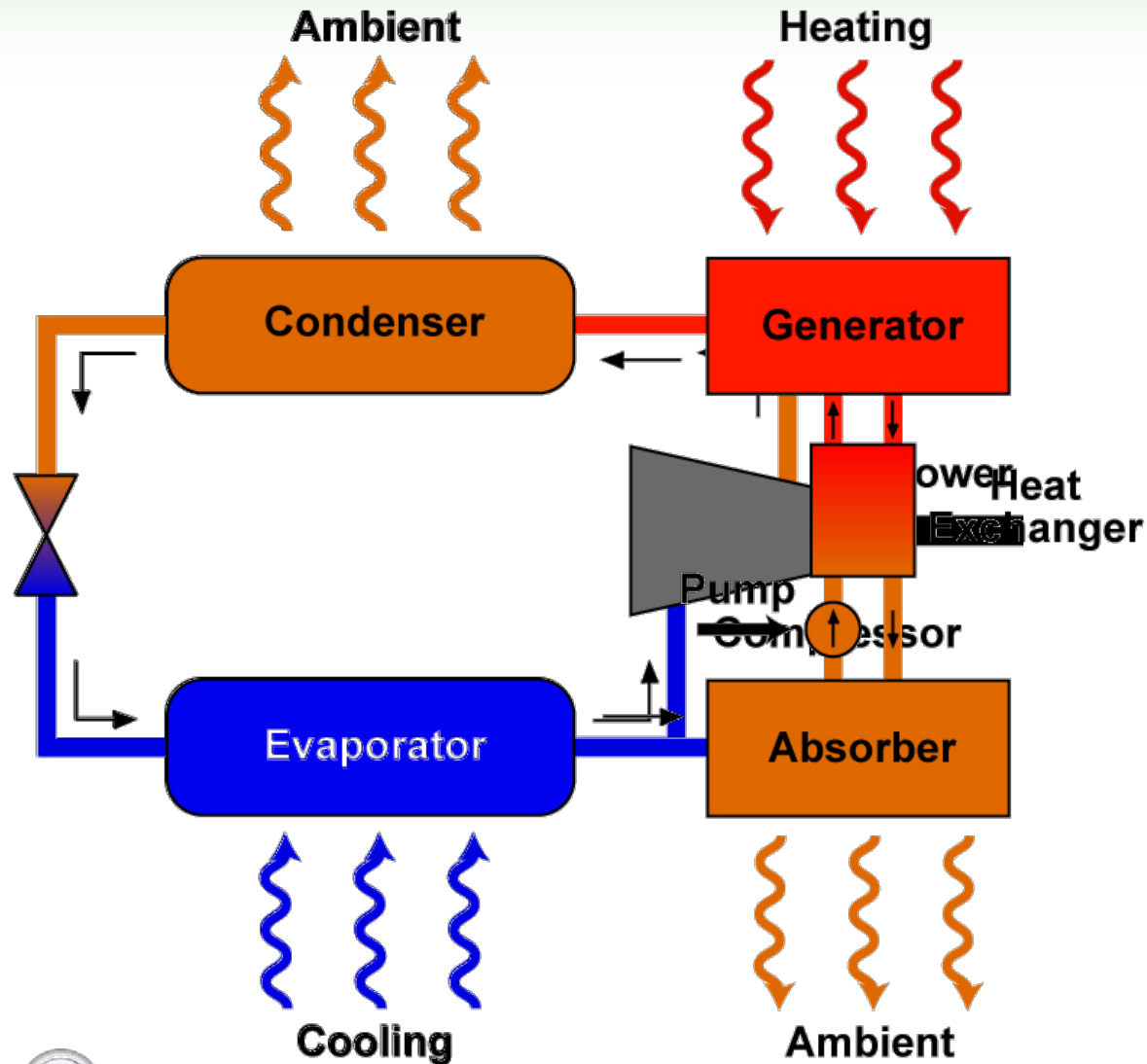
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www.stonemntntechnologies.com

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ARS Solutions, LLC

Mr. Richard Albert

Project Summary



Eventual Miniaturization Potential

State of the Art:

9-12 ft³/RT

150-210 lb/RT

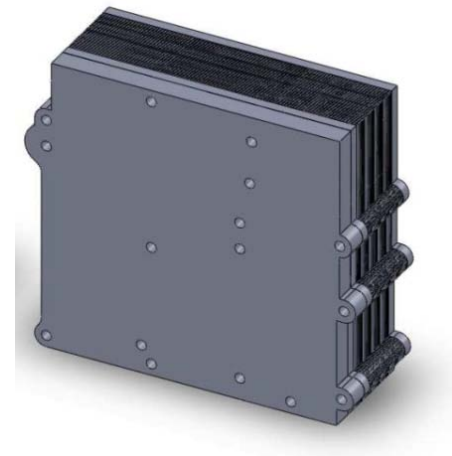


Projected Commercial Units:

~4 ft³/RT

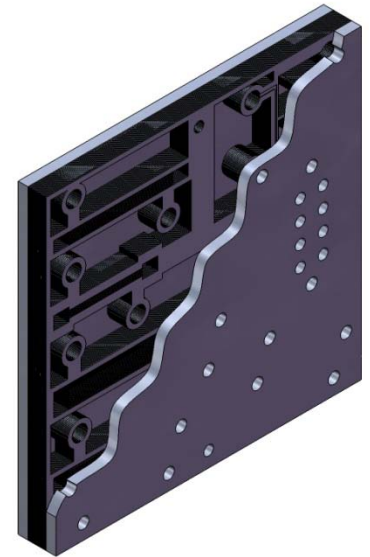
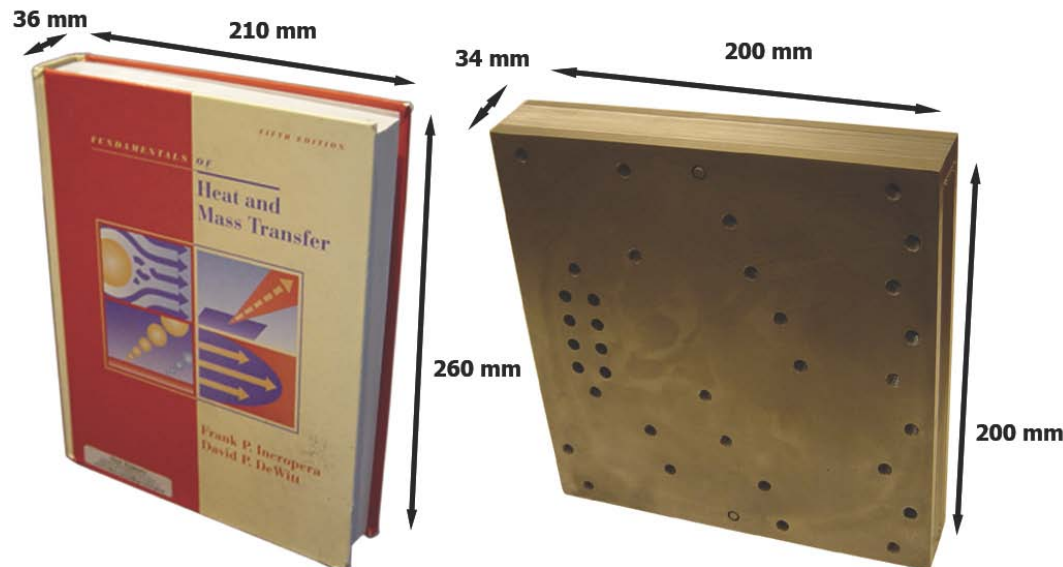
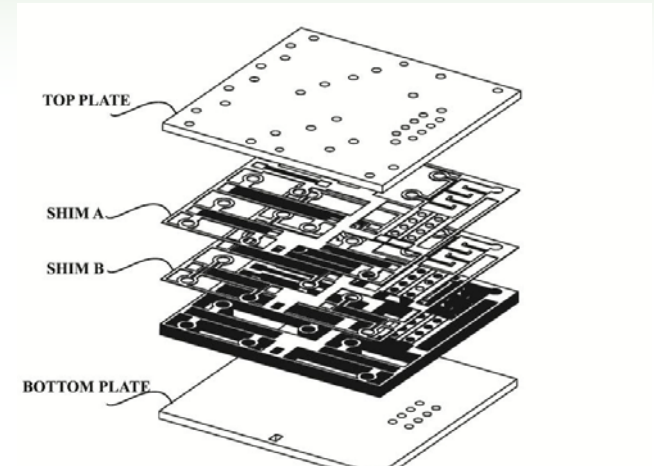
~ 60 lb/RT

~ **2-3x smaller**

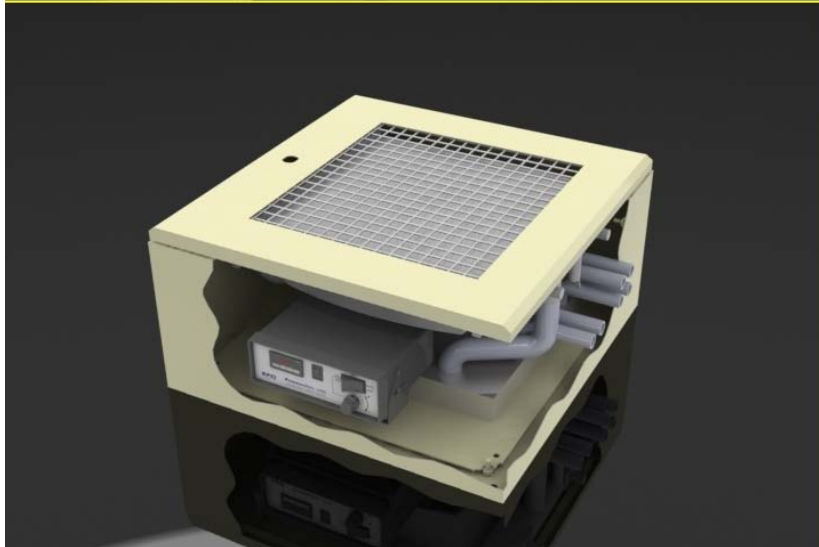
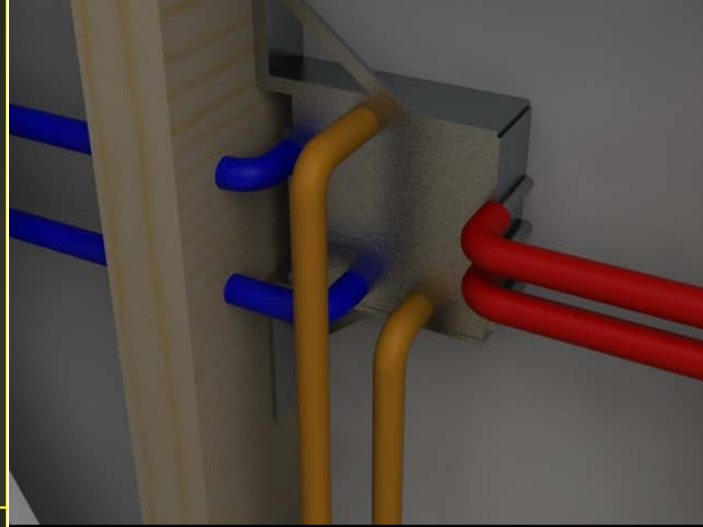


Core Technology: Microscale Monolithic System

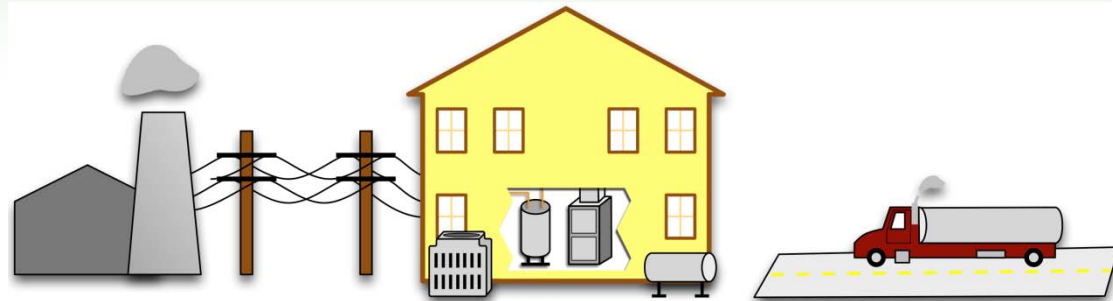
- ALL components integrated into one monolith
- 300 W proof-of-concept



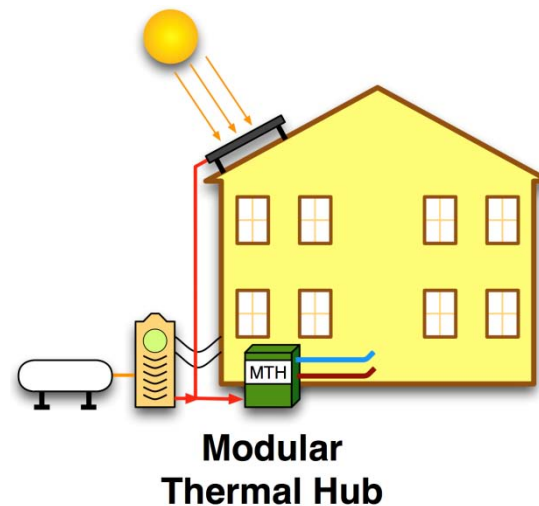
Modular Thermal Hub: Potential Implementations



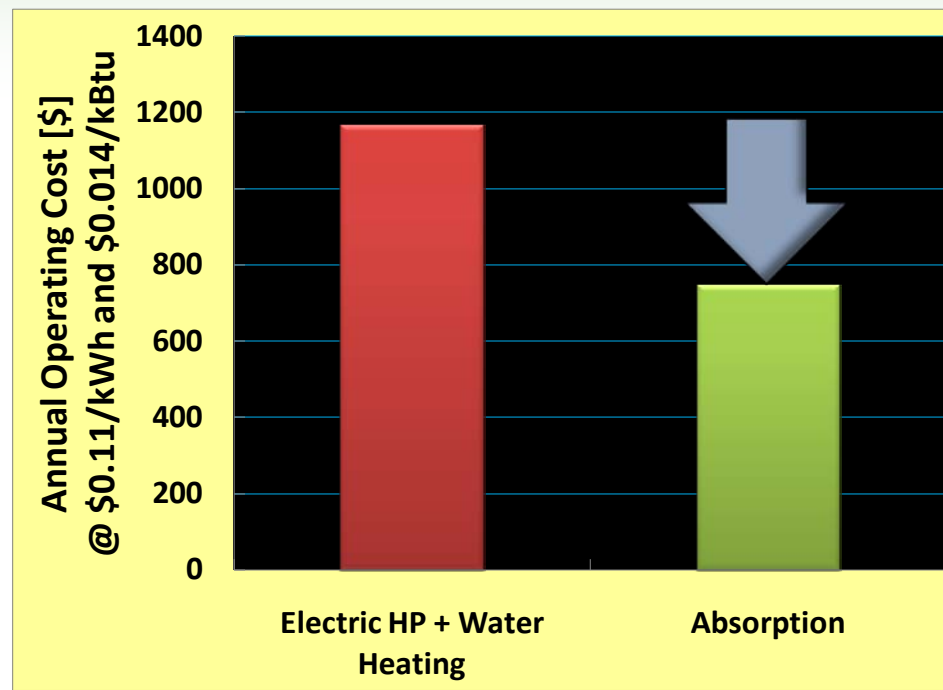
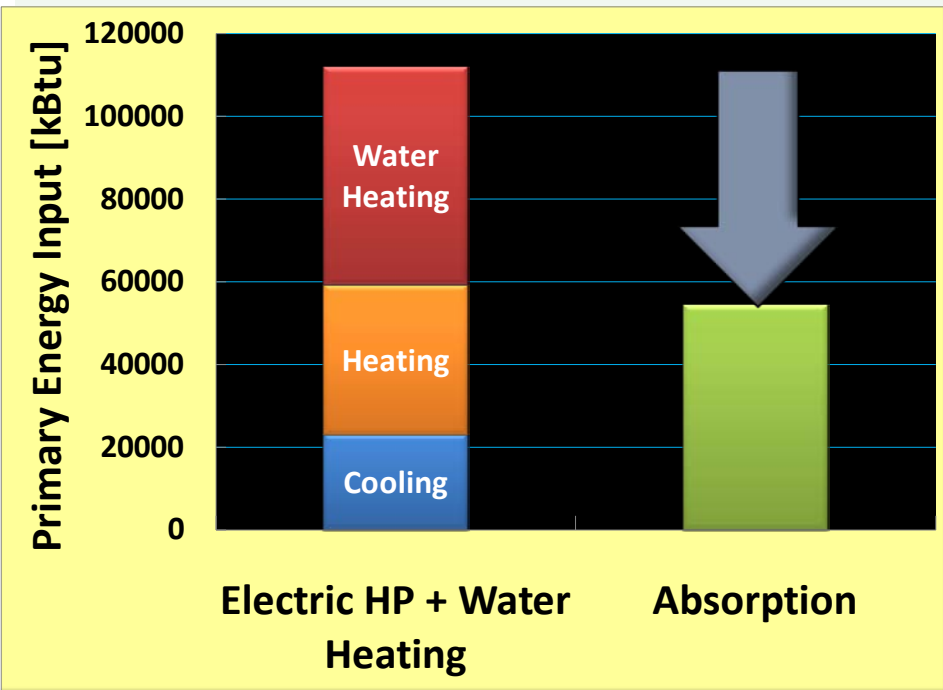
Energy Use Paradigm Shift



- “Near-Lossless” energy conversion on-site
- Enables cascaded systems to achieve maximum primary source efficiency



Energy and Cost Savings



- Primary energy consumption savings: ~50%
- Payback time of ~3 year possible